IN THE CLAIMS:

1. – 8. Canceled.

9. (Currently Amended) A method operable to detect ~~for generating and detecting~~ ultrasonic surface displacements on a surface of a remote target ~~further~~ comprising ~~the steps of~~:

~~using a first pulsed laser beam to generate the ultrasonic surface displacements at the target;~~

~~amplifying a second pulsed laser beam;~~

directing a first ~~second~~ pulsed laser beam at the surface of the remote target to detect ~~the~~ ultrasonic surface displacements;

scattering the first pulsed laser beam with the ultrasonic surface displacements to produce phase modulated light;

collecting a portion of the phase modulated light ~~from the second pulsed laser beam which is~~ scattered by the surface of the remote target;

optically amplifying the collected phase modulated light ~~after the phase modulated light has been collected~~;

~~preventing reflected phase modulated light feedback into an optical amplifier with at least one optical isolation assembly placed in the path of propagation of the phase modulated light which has been collected;~~ and

processing the phase modulated light to obtain data representative of the ultrasonic surface displacements at the target.

10. (Currently Amended) The method of Claim 23 [[9]], wherein the second pulsed laser beam is applied coaxially with the first pulsed laser beam.

11. (Original) The method of Claim 9 wherein the step of optically amplifying the phase modulated light is accomplished using a multi-pass optical amplifier.

12. (Original) The method of Claim 9 wherein the step of optically amplifying the phase modulated light is accomplished using a doped fiber optic carrier coupled to an optical pump.

13. (Original) The method of Claim 9 wherein the step of processing the phase modulated light comprises:

using an interferometer to demodulate the phase modulated light to create at least one optical signal;

converting the at least one optical signal into at least one digital signal; and

using a digital signal processor to process the at least one digital signal.

14. (Original) The method of Claim 13 wherein the step of converting the at least one optical signal into at least one digital signal comprises:

converting the at least one optical signal into at least one analog signal; and

converting the at least one analog signal into at least one digital signal.

15. (Original) The method of Claim 9 further comprising processing the data representative of the ultrasonic surface displacements to determining a location of flaws or an discontinuities at the target.

16. (Currently amended) A system operable to detect ~~for detecting~~ ultrasonic surface displacements occurring on a surface of a target comprising:

a detection laser to generate a first pulsed laser beam to detect the ultrasonic surface displacements at the target;

collection optics for collecting phase modulated light from the first pulsed laser beam scattered by the target;

an optical amplifier to amplify the phase modulated light collected by the collection optics;

~~at least one optical isolation assembly placed in the path of propagation of the phase modulated light collected by the collection optics for preventing reflected laser light feedback into optical amplifier;~~

an interferometer to process the phase modulated light and generate at least one output signal; and

a processing unit to process the at least one output signal to obtain data representative of the ultrasonic surface displacements at the target.

17. (Original) The system of Claim 16 further comprising an optical amplifier to amplify the first pulsed laser beam generated by the detection laser prior to directing the first pulsed laser beam upon the target.

18. (Original) The system of Claim 16 further comprising an optical ranging unit to calculate a distance by which the target is separated from the system.

19. (Original) The system of Claim 16 further comprising a generation laser to generate a second pulsed laser beam to induce the ultrasonic surface fluctuations, and wherein the second pulsed laser beam is applied coaxially with the first pulsed laser beam.

20. (Original) The system of Claim 16 wherein the optical amplifier is multi-pass optical amplifier.

21. (Original) The system of Claim 16 wherein the optical amplifier is comprised of a doped fiber optic carrier and an optical pump coupled thereto.

22. (New) The method of Claim 9, further comprising generating ultrasonic surface displacements at the surface of the remote target.

23. (New) The method of Claim 22, wherein a second pulsed laser is applied to the surface of the remote target to generate the ultrasonic surface displacements.

24. (New) The method of Claim 22, wherein a transducer is applied to the surface of the remote target to generate the ultrasonic surface displacements.

25. (New) The method of Claim 9, further comprising preventing reflected phase modulated light feedback into an optical amplifier with at least one optical isolation assembly placed in the path of propagation of the phase modulated light which has been collected.

26. (New) The system of Claim 16, further comprising at least one optical isolation assembly placed in the path of propagation of the scattered phase modulated light collected by the collection optics operable to prevent reflected laser light feedback into optical amplifier.

27. (New) The system of Claim 16, further comprising a transducer operably coupled to the target wherein the transducer is operable to generate ultrasonic surface displacements at the surface of the target.

Double Patenting Rejection

Claims 9 - 21 stand rejected under the statutory prohibition against double patenting under 35 USC §101, in view of prior U.S. Patent No. 6,122,060. 35 USC § 101 prevents two patents from issuing on the same invention. "Same invention" is taken to mean identical subject matter. *In re Vogel* teaches that the test for same invention double patenting is whether one of the claims of one patent could be literally infringed without literally infringing one of the claims in the other patent.

Applicant respectfully submits that Claims 9 and 6 have been amended such that it is possible to not infringe the claims of U.S. Patent No. 6,122,060 and still infringe the amended claims 9 and 16 of the instant application. As the present invention focuses on the post-collection optical amplification of the phase modulated light, wherein the phase modulated light results from scattering incident light with ultrasonic displacements. These ultrasonic displacements may be generated through a number of known methods. Thus, amended Claim 9 does not include the limitation of: "using a first pulsed laser beam to generate the ultrasonic surface displacements at the target;" Therefore an apparatus or method that did not utilize a first pulsed laser beam to generate the ultrasonic surface displacements at the target could infringe amended Claim 9 but not the similar method Claims of U.S. Patent No. 6,122,060 which require a first pulsed laser beam to generate the ultrasonic surface displacements at the target. Other means may be utilized to generate the ultrasonic surface displacements at the target. One such example is a transducer operably coupled to the surface of the target. This element is specifically claimed in new claim 24 to illustrate this difference.

Additionally, the requirement of an optical isolation assembly to prevent feedback in the optical amplifier has been removed from amended independent claim 9. Therefore, the instant application could be infringed by a system lacking the optical isolation assembly that prevents feedback into the optical amplifier that the claims of U.S. Patent No. 6,122,060 require. This is further clarified by new Claim 25 which depends from Claim 9. Claim 25 provides the method of Claim 9 that further includes the prevention of optical feedback within the optical amplifier from phase-modulated light.

Similarly, Claim 16 has also been amended to remove the requirement of at least one optical isolation assembly within the path of the phase-modulated light. Therefore, the instant